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BRUHAT BANGALORE MAHANAGARA PALIKE

Improvements to Road, Drain and Footpath in 5th Main Road and abutting Cross Roads of Tatanagar in Ward No.8, Kodigehalli

(1)

008-17-000044

Detailed Project Report

October 2016

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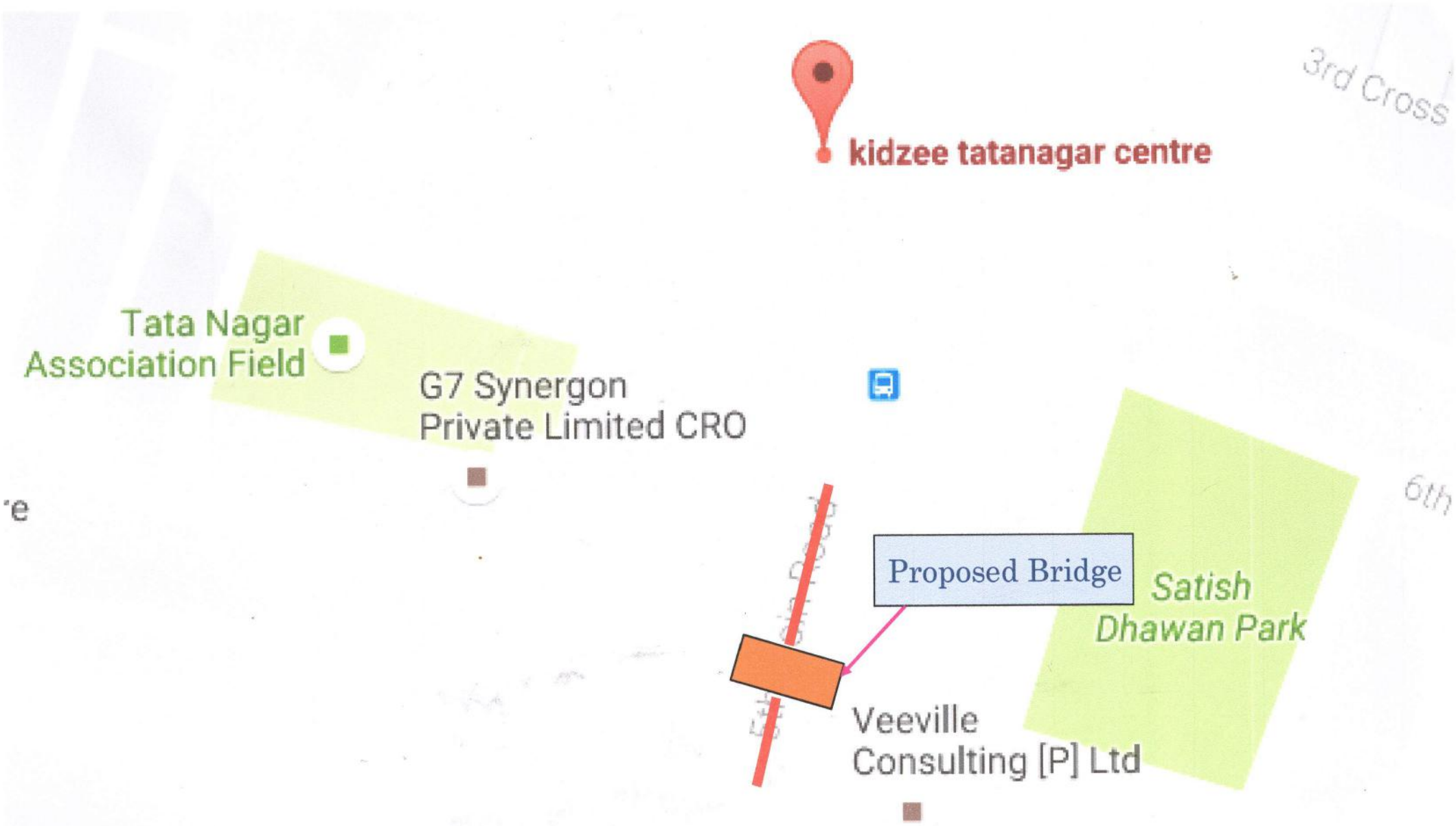
KEY MAP – 5th Cross Road Of Tatanagar Kodigehalli



BRUHAT BANGALORE MAHANAGARA PALIKE

Project: Improvements to Road,Drain and Footpath in 5thMain Road and abutting Cross Roads of Tatanagar in Ward No.8, Kodigehalli

Est Cost: =95 Lakh

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
1	KSRRB M200-13.1. Dismantling of existing structures like culverts, Bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceble material and stacking the serviceble material with all lifts complete as per specifications. II. By mechanical means, A. Cement concrete Grade M-15 & M-20 (P.No.137, I.No.18.20 of PW,P&IWTD SR 2016-17)								
	5th main bridge portion	Cum							
	culvert slab		1	3.00	16.00	0.20	9.60		
							9.60	466.20	**4475.52**
2	KSRRB M200-15.2. Dismantling of existing structures like culverts, Bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceble material and stacking the serviceble material with all lifts complete as per specifications. iii) Dismantling Stone Masonry B. Rubble Stone maonry in cement mortar (P.No.138, I.No.18.27 of PW,P&IWTD SR 2016-17)								
	SSM	Cum							
	Abutments		2	15.60	0.90	1.50	42.12		
	Parappet wall		2	3.80	0.60	1.00	4.56		
	SSM Retaining Wall		4	5.00	0.45	1.50	13.50		
							60.18	359.14	**21613.05**
3	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)								
	Desilt	Cum							
	5th main								
	Ch0-35		2	35.00	0.60	0.30	12.60		
	Ch45-220		2	175.00	0.60	0.50	105.00		
	New Culvert								
			6	8.00	2.30	1.05	115.92		
	Over Burden Earth								
			2	60.00	1.80	0.50	108.00		
							341.52	192.92	**65886.04**
4	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892 cum and fine aggregates @ 0.465 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.2 of PW,P&IWTD S.R 2016-17)								
	Bed Concrete	Cum							
	5th main								
	Ch0-35		4.00	35.00	0.23	0.100	3.22		
	Ch45-220		4.00	175.00	0.23	0.100	16.10		
	New Culvert								
			6.00	8.00	2.30	0.100	11.04		

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
	for tiled footpath								
	Ch0-35 LHS		1	35.00	2.00	0.100	7.00		
	Ch0-35 RHS		1	35.00	2.00	0.100	7.00		
	Ch45-75 LHS		1	30.00	2.00	0.100	6.00		
	Ch45-75 RHS		1	30.00	2.00	0.100	6.00		
	Ch75-220		2	150.00	2.00	0.100	60.00		
							116.36	5348.76	**622381.71**
5	Removing & Refixing Stone slabs of drains and Pointing in C.M(1:3) (P.No.25, I.No.5.33 of PW, P&IWTD SR 2016-17)								
	BS Slab Drain	Sqm							
	5th main								
	BS Slab Cover								
	Ch20-35		2.00	15.00	0.90	--	27.00		
	Ch45-75 RHS		1.00	29.00	0.90	--	26.10		
	BS Slab Drain								
	Ch0-35		2.00	35.00	1.80	--	126.00		
	Ch45-220		2.00	175.00	1.80	--	630.00		
							809.10		
	Consider 30% for missing and Damage Slabs						-242.73		
							566.37	80.56	**45626.77**
6	Providing granite Slabs of Selected quality roughly dressed and fixed in cement mortor (1:6) including fixing curing etc,. Complete. 7.5cms thick (P.No.25, I.No.5.31.1 of PW, P&IWTD SR 2016-17)								
	For BS Slab Drain / Missing						242.73		
							242.73	665.68	**161580.51**
7	KSRB 5.2-3: Providing and constructing granite size stone masonry in foundation cement mortor 1:6, stone hammered dressed in courses not less than 20cms high, bond stones at 2m. apart in each course including cost of materaials, labour, curing complete as per specifications. Specifcation No. KBS 5.1.13. (P.No.23, I.No.5.6 of PW, P&IWTD S.R 2016-17)								
	Flagging Course / Raising of BS Drain	Cum							
	5th main								
	New Culvert								
			12.00	8.00	0.60	0.90	51.84		
	Ch0-35		2.00	35.00	0.23	0.23	3.70		
	Ch45-220		2.00	175.00	0.23	0.23	18.52		
							74.06	4438.22	**328694.57**
8	KSRB 5-11 : Providing and constructing load bearing wall with solid concrete blocks of size 400x150x200 mm having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 4.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications. KBS No.5.4(P.No.25, I.No.5.26.2 of PW, P&IWTD SR 2016-17)								
	Flagging Course / Raising of BS Drain	Sqm							
	5th main								
	Ch0-35		2.00	35.00	--	0.40	28.00		
	Ch45-220		2.00	175.00	--	0.40	140.00		
							168.00	961.42	**161518.56**

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
9	KSRB 15.1.1 Providing flush pointing to square rubble, course or uncoursed stone masonry with cement mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications. (P.No.113, I.No.15.1 of PW, P&IWTD S.R 2016-17)								
	5th main	Sqm							
	New Culvert		12	8.00	--	0.90	86.40		
	Ch0-35		2	35.00	--	0.23	16.10		
	Ch45-220		2	175.00	--	0.23	80.50		
							183.00	102.82	**18816.06**
10	KSRB 4-1.6: Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregates @ 0.459 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.6 of PW,P&IWTD S.R 2016-17)								
	Coping	Cum							
	5th main								
	Ch0-35		4.00	35.00	0.23	0.075	2.42		
	Ch45-220		4.00	175.00	0.23	0.075	12.08		
	New Culvert								
			12.00	8.00	0.60	0.100	5.76		
							20.25	5767.46	**116791.07**
11	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (P.No.182, I.No. 24.1 of PW,P&IWTD SR 2016-17)								
	For existing BS Kerb Painting	Sqm							
	5th main		2.00	400.00	--	0.30	240.00		
							240.00	63.60	**15264.00**
12	KSRRB 2100.-2.2: Earthwork in excavation for foundations of structures as per drawings and techincal specifications including, setting out , construction of shoring & bracing , removal of stumps and other deleterious matter , dressing of sides and bottom and backfilling with approved material complete as per specifications .B. Machanical means (i) Depth - 3.0 Mtr to 6.0 m depth MORTH specification - No - 304(P.No.216, I.No.27.5 of PW,P&IWTD S.R 2016-17))								
	for Bridge portion	Cum	1	17.50	6.40	3.75	420.00		
	Retaining wall								
	Up stream end & Down stream end		4	10.00	3.10	3.75	465.00		
	V Shape Drain Towards D/S		1	30.00	3.00	1.60	144.00		
							1029.00	159.40	**164022.60**
13	KSRB 2.8 : Providing and Filling in foundation with granite / trap broken metal 100mm. and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with all lead and lift, complete as per specifications, specification. No. KBS (P.No.6, I.No.2.15 of PW,P&IWTD S.R 2016-17))								
		Cum							
	for Bridge portion		1	17.50	5.40	0.30	28.35		
	Retaining wall		4	10.00	3.10	0.30	37.20		
							65.55	2283.12	**149658.52**
14	KSRRB M2100-13. Plain / Reinforced Cement Concrete M15 with OPC cement @ 240kgs, with 40mm and down size graded granite metal coarse aggregates @0.84cum and fine aggregates @ 0.56cum in Open Foundation complete as per Drawing and Technical Specifications MORTH Specification No. 1500,1700 & 2100.(P.No.218, I.No.27.24 of PW,P&IWTD S.R 2016-17)								
	PCC	Cum							
	for Bridge portion		1	17.50	4.80	0.15	12.60		
	Retaining wall								
	Upstream and Downstream End		4	10.00	2.50	0.15	15.00		
	V Shape Drain Towards D/S		1	30.00	3.00	0.15	13.50		
							41.10	6340.68	**260601.95**

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
15	Diversion of water course by providing Coffer dams or bunds or islands as may be necessary for piers and abutments foundations, bailing out or pumping water during excavation and until completion etc., complete.(1.50 mtrs depth below LWL.)(P.No.264, I.No.37.41.1 of PW,P&IWTD S.R 2016-17)								
	for Bridge portion	Cum							
			2	17.50	1.50	1.50	78.75		
	V Shape Drain Towards D/S		1	30.00	1.50	1.50	67.50		
							146.25	289.44	**42330.60**
16	Diversion of water course by providing Coffer dams or bunds or islands as may be necessary for piers and abutments foundations, bailing out or pumping water during excavation and until completion etc., complete.(beyond 1.50 mtrs depth upto & including 3m)(P.No.264, I.No.37.41.2 of PW,P&IWTD S.R 2016-17)								
	for Bridge portion	Cum							
			2	17.50	1.50	1.00	52.50		
							52.50	356.40	**18711.00**
17	KSRRB M800-43. Installation of a steel portable barricade with horizontal rail 300 mm wide, 2.5 m in length fitted on a 'A' frame made with 45 x 45 x 5 mm angle iron section, 1.5 m in height, horizontal rail painted (2 coats) with yellow and white stripes, 150 mm in width at an angle of 45°, 'A' frame painted with 2 coats of yellow paint, complete as per IRC:SP:55-2001 complete as per specifications.(P.No.190, Item no 24.44 of PW,P&IWTD S.R 2016-17))								
	Barricade	each							
	for Bridge portion		1	20.8	--	--	20.80		
							20.80	2561.76	**53284.61**
18	KSRRB M2100-20.2. Plain / Reinforced Cement Concrete in Open Foundation with OPC cement design mix M35 @ 390kgs, with 20mm and down size graded granite metal coarse aggregates @0.68cum and fine aggregates @ 0.45cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008. case II : With Batching Plant, Transit Mixer and Concrete Pump MORTH Specification No. 1500,1700 & 2100(P.No.220, I.No.27.37 of PW,P&IWTD S.R 2016-17)								
	for Bridge portion	Cum							
	Base Slab		1	17.50	4.50	0.30	23.63		
	Retaining wall								
	Upstream and Downstream End		4	10	2.20	0.20	17.60		
			4	10.00	1.33	0.25	13.30		
	V Shape Drain Towards D/S		1	30.00	3.00	0.25	22.50		
							77.03	6967.08	**536674.17**
19	KSRRB M2200-5.19. Design mix M35 with OPC cement @ 390kgs,with 20mm and down size graded granite metal coarse aggregates @0.68cum and fine aggregates @ 0.45cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 - ii) For height, upto 5m,(P.No.224, I.No.28.7.18 of PW,P&IWTD S.R S.R 2016-17)								
	for Bridge portion	Cum							
	Side Walls		2	17.50	0.30	3.00	31.50		
	Haunch	0.5	2	17.50	0.15	0.15	0.39		
	Retaining wall								
	Up stream end & Down stream end								
			4	10.00	0.33	2.85	37.05		
	V Shape Drain Towards D/S		2	30.00	0.60	2.00	72.00		
	(1+0.2)/2=0.6								
							140.94	7848.36	**1106177.29**

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
20	KSRRB M2300-8.1. Furnishing and Placing Reinforced/ Prestressed cement concrete in super-structure as per drawing and Technical Specification complete as per specifications. D. RCC / PSC with OPC cement design mix M35 @ 390kgs, with 20mm and down size graded granite metal coarse aggregates @0.68cum and fine aggregates @ 0.45cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, Case - II : Using Batching Plant, Transit Mixer & Concrete Pump MORTH Specification No. 1500,1600 & 1700-Height upto 5 m(P.No.233 , I.No.29.16.1 of PW,P&IWTD S.R S.R 2016-17)								
	for Bridge portion								
	Top Slab	Cum	1	17.50	3.60	0.35	22.05		
	Haunch	0.5	2	17.50	0.15	0.15	0.39		
	Wedge		2	17.50	0.45	0.30	4.73		
	Approach slab		2	7.50	3.50	0.20	10.50		
	Crash Barrier		2	3.60	0.15	1.18	1.27		
			2	3.60	0.94	0.23	1.52		
							40.46	7939.08	**321187.39**
21	KSRRB M2200 -6 Supplying , fitting and placingTMT bar Fe 550 reinforcement in sub-structure complete as per drawing & technical specification complete as per the specification . MORTH Specification No.1600 & 2200(P.No.225 , I.No.28.8.3 of PW,P&IWTD S.R 2016-17)								
	for Bridge portion								
	Consider 135kg/cum for Bridge portion	Tonne		55.52	--	0.135	7.50		
	Consider 100kg/cum for Retaining wall	Tonne		162.45	--	0.100	16.25		
							23.75	59922.72	**1423164.60**
22	KSRRB M2300 -14. supplying , fitting and placing TMT bar Fe 550 reinforcement in super-structure complete as per as per drawing & technical specification complete as per the specification . MORTH Specification No.1600.(P.No.238 , I.No.29.29.3 of PW,P&IWTD S.R 2016-17))								
	for Bridge portion								
	Consider 135kg/cum for Bridge portion	Tonne		40.46	--	0.135	5.46	60885.00	**332432.10**
23	KSSRB M220 - 8. Providing weep holes in Brick masnory / Plain / Reinforced concrete abutment, wing wall / return wall with 100mm dia AC pipe, extending through the full width of the structure with slope of 1V:20H towards drawing foce. Complete as per drawing and Technical specifications complete as per specifications. MORTH Specification No. 2706 & 2200 (P.No.225, I.No.28.10 of PW,P&IWTD S.R 2016-17))								
	for Bridge portion	No./Mtr							
	Box	2	26.25		--	--	52.50		
	Retaining wall	4	7.5		--	--	30.00		
							82.50	181.44	**14968.80**
24	KSRRB M2700-4. Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification complete as per specifications MORTH Specification No. 2703.2, 1900'(P.No.246, I.No.32.4 of PW,P&IWTD S.R 2016-17))								
	for Bridge portion								
	Crash Barrier	m	2	3.60	--	--	7.20		
							7.20	3139.56	**22604.83**
25	KSRRB M2700-5. Drainage Spouts complete as per drawing and Technical specification complete as per specifications MORTH Specification No. 2705(P.No.246, I.No.32.5 of PW,P&IWTD S.R 2016-17))								
	for Bridge portion								
		No	2	3.00	--	--	6.00		
							6.00	1776.60	**10659.60**
26	KSRRB 2200-9 Filter Media Providing & laying of Filter media With Granular meterails / Stone crushed aggregates satisfying the requirement laid down in clause 2500.4.2.2 of MORTH Specification to a thickness on not less than 600 mm width smaller size towards the soil & bigger size towards wall & provided over the entire surface behind Abutment, Wing wall & return wall to the full height compacted to a firm condition complete as per Drawing & Techincal Specifications. Complete as per specification MORTH Specification No. 710.14of IRC: 78& 2200(P.No.225, I.No.28.13 of PW,P&IWTD 2016-17))								

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
	for Bridge portion	Cum	2	17.50	0.60	3.30	69.30		
	Retaining wall		4	10.00	0.60	2.85	68.40		
							137.70	1399.68	**192735.94**
27	KSRRB 2200-8.1 Back filling behind Abutment, Wing wall & return wall to the full height compacted to a firm condition complete as per Drawing & Techincal Specifications. Complete as per specification A. Granular Material MORTH Specification No. 710.14of IRC: 78& 2200.With all Leads & Lift etc & as per the direction of the Engineer Incharge of the Work.(P.No.225, I.No.28.11 of PW,P&IWTD S.R 2016-17))								
	for Bridge portion	Cum	2	17.50	1.60	3.75	210.00		
	Retaining wall		4	10.00	1.30	3.75	195.00		
							405.00	565.92	**229197.60**
28	KSRRB M2500-11. Construction of flexible apron 1 m thick comprising of loose stone boulders weighing not less than 40 kg beyond curtain wall complete as per specifications MORTH Specification No. 2507.2(P.No.241, I.No.30.14 of PW,P&IWTD S.R 2016-17))								
	Bridge	Cum							
	U /S End		1	10.00	3.00	1.00	30.00		
	D/S End		1	10.00	3.00	1.00	30.00		
							60.00	1558.44	**93506.40**
29	KSRRB 2500 - 5.1 Providing & laying , flooring complete as per and technical specifiactions laid over cement concrete bedding complete as per specification. A. Rubble Stone laid in CM 1:3 MORTH Specification No. 2505(P.No.240, Item no 30.7 of PW,P&IWTD S.R 2016-17))								
	Bridge	Cum							
	U /S End		1	10.00	3.00	0.30	9.00		
	D/S End		1	10.00	3.00	0.30	9.00		
							18.00	4925.88	**88665.84**
30	KSRRB M2500-10.Curtain wall complete as per drawing and Technical Specifications. B. Cement Concrete Grade M-15 MORTH Specification No. 2507.2(P.No.241, Item no 30.13 of PW,P&IWTD S.R 2016-17))								
	Bridge	Cum							
	U /S End		1	10.00	0.60	1.50	9.00		
	D/S End		1	10.00	0.60	1.50	9.00		
							18.00	5630.04	**101340.72**
31	Providing and fixing **RCC Precast cover slab of 100mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Cover Slab	Sqm							
	5th main								
	Ch0-20		2	20.00	1.20	--	48.00		
	Ch45-75 LHS		1	30.00	1.20	--	36.00		
	Ch75-220		2	125.00	1.20	--	300.00		
							384.00	1698.00	**652032.00**
32	Providing and fixing **RCC Precast cover slab of 250mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Culvert Slab	Sqm							
			6.00	8.00	1.50	--	72.00		
							72.00	4764.00	**343008.00**

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
33	KSRRB M400-19: Construction of Median and island above road level with approved material deposited from borrowpits, spread, sloped and compacted as per Clause 400.7 complete as per specifications. MORTH Specification No.407 (P.No158 of I.No.20.20 in PW,P&IWTD SR 2014-15)								
	5th main	cum							
	Ch0-35 LHS		1	35.00	2.00	0.10	7.00		
	Ch0-35 RHS		1	35.00	2.00	0.10	7.00		
	Ch45-75 LHS		1	30.00	2.00	0.10	6.00		
	Ch45-75 RHS		1	30.00	2.00	0.10	6.00		
	Ch75-220		2	150.00	2.00	0.10	60.00		
							86.00	208.82	**17958.52**
34	Providing and laying/fixing cement base, precast, pre polished cement concrete, designer tiles 25mm thick conforming to IS 1237 heavy duty tiles for flooring, treads of steps and landing, laid on a bed of 12mm thick cement mortar 1:3 mis finished with flush pointing using white cement, including cost of materials, including cutting, griding the edge to half/full round wherever required, labour, curing complete as per specification.(P.No.109, I.No.14.62 of PW,P&IWTD S.R 2016-17))								
	Footpath	Sqm							
	Ch0-35 LHS		1	35.00	2.00	--	70.00		
	Ch0-35 RHS		1	35.00	2.00	--	70.00		
	Ch45-75 LHS		1	30.00	2.00	--	60.00		
	Ch45-75 RHS		1	30.00	2.00	--	60.00		
	Ch75-220		2	150.00	2.00	--	600.00		
							860.00	1150.10	**989086.00**
35	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2016-17)								
	Approach Road	Cum							
			2	27.00	7.50	0.55	222.75		
							222.75	154.76	**34472.79**
36	KSRRB M400-6.2: Construction of granular sub-base by providing Close graded material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with mortar grader on prepared surface and compacting with vibratory roller to achieve the desired density, complete as per specifications. A Plant Mix methad For Grading II Material (P.No.155, I.No.20.4.2 of PW,P&IWTD SR 2016-17)								
	Approach Road	Cum							
			2	27.00	7.50	0.20	81.00		
							81.00	1665.26	**134886.06**
37	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.158, I.No.20.18 of PW,P&IWTD SR 2016-17)								
	Approach Road	Cum							
			2.00	27.00	7.50	0.25	101.25		
							101.25	1768.08	**179018.10**
38	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)								
	Approach Road	Sqm							
			2.00	27.00	7.50	--	405.00		
							405.00	27.56	**11161.80**

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
39	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17)								
	For Laying DBM	Sqm							
	Approach Road		2.00	27.00	7.50	--	405.00		
	For Laying BC								
	Approach Road		2.00	27.00	7.50	--	405.00		
							810.00	11.66	**9444.60**
40	KSRRB M500-16. Providing and laying dense bituminous macadam 50-75mm compacted thickness with 4.5% VG-30 Bitumen using 40/60 TPH capacity H.M.P, using crushed aggregates of grading II, premixed with VG 30 grade bituminous binder and transporting the hot mix to work site, laying with mechanical paver to the required grade level and alignment rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10, complete in all respects complete as per specification MORTH specification No. 507 (P.No.163 I.No. 21.17.6 of PW,P&IWTD S.R 2016-17)								
	For Laying DBM/Profile Correction	Cum							
	Approach Road		2.00	27.00	7.50	0.05	20.25		
							20.25	6435.26	**130314.02**
41	KSRRB M500-19. Providing and laying bituminous concrete 40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 5.4% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of I.No.21.22.6 in PW,P&IWTD S.R 2016-17)								
	For Laying BC	Cum							
	Approach Road		2.00	27.00	7.50	0.04	16.20		
							16.20	7270.54	**117782.75**
42	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, I.No.24.15 of PW,P&IWTD SR 2016-17)								
		Sqm							
	Center lane Marking		0.5	27.00	0.15	--	2.03		
	Edge line		2	27.00	0.15	--	8.10		
							10.13	542.72	**5495.04**
								Total Construction Cost	**9349232.099**
43								**Cost towards Preparation of DPR LS**	**56096.00**
44								**Cost towards PMC / Third Party inspection LS**	**93493.00**
								Sub Total	**9498821.10**
45								**Miscellaneous and rounding off**	**1178.90**
								Total	**9500000.00**

Certificate.

1 The rates adopted based on the PWD SR, Bangalore circle for year 2016-17.
2 The provisions made in the estimate are necessary and essential.
3 The workspot was inspected and work is found to be necessary.
4 The area comes within the Bruhat Bangalore Mahanagara Palike limits.

For Tejus Consultants

Assistant Engineer

Assistant Executive Engineer

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

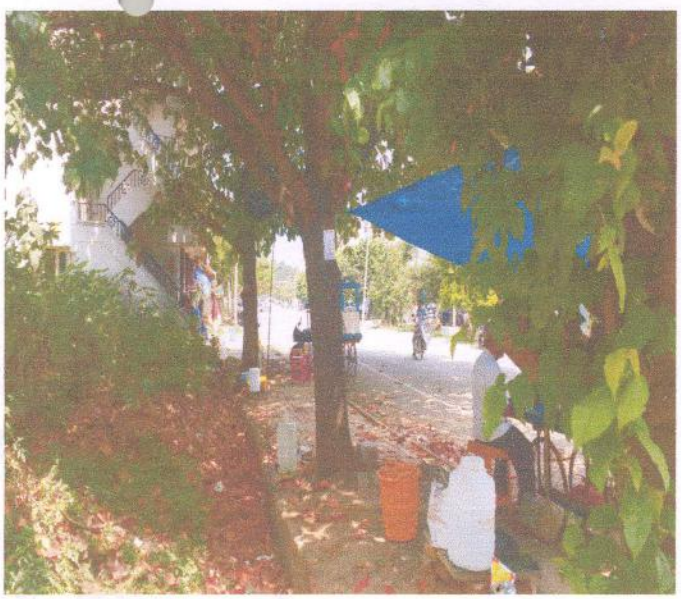
Executive Engineer

Technical Sanction
Accorded For ..... 95.00 lakhRs.
Head of A/C..... P3158
CER NO :..... 163 **Dt:**.. / 8 of 8 Dt: 04/03/17

[TA] CE (YNK)

us Consultants

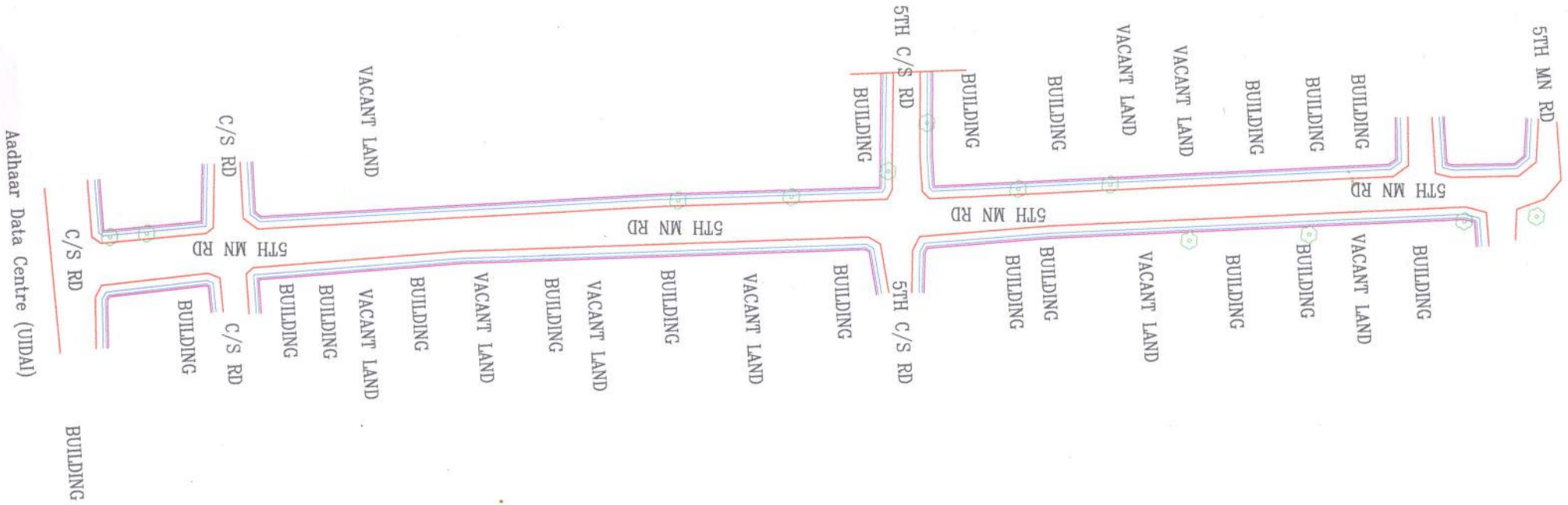
EXISTING VIEWS OF 5th MAIN KODIGEHALLI



Assistant Executive Engineer
Kodigehalli Sub Division,

BRUHAT BANGALORE MAHANAGARA PALIKE

IMPROVEMENTS TO ROAD,DRAIN AND FOOTPATH IN 5TH MAIN ROAD AND ABUTTING CROSS ROADS OF TATANAGAR IN WARD NO.8, KODIGEHALLI



NOTE:-

1. ALL DIMENSION & LEVELS ARE Mts. UNLESS OTHERWISE MENTIONED.

DATE	No. OF PRINTS	PRINTS ISSUED TO	SIGN

DATE	REVISION	DESCRIPTIONS	SIGN

LEGEND:-

Road
Drain
Contour
Levels
Power line
Telephone pole
Street light
Electric pole
Tree
Building
Bore Well
Drain level
Compound wall
Culvert
Coconut Tree
Road level

CONSULTANT:

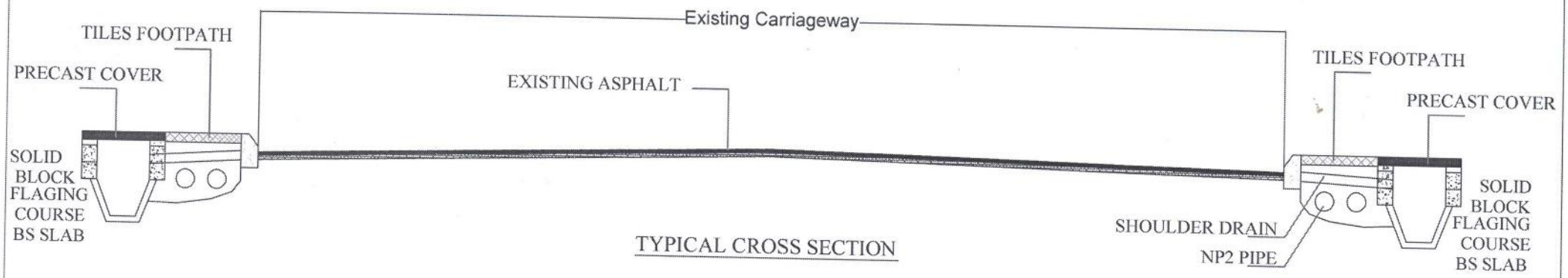
TEJUS CONSULTANTS
No.58 MIG, 6th Cross, 3rd Main
1st Stage, Basaveshwaranagar
Bangalore-560079
TEL: 080 - 23287532
email: tejusconsultants@gmail.com

TITLE: STRIP PLAN

1/1

BRUHAT BANGALORE MAHANAGARA PALIKE

IMPROVEMENTS TO ROAD,DRAIN AND FOOTPATH IN 5TH MAIN ROAD AND ABUTTING CROSS ROADS OF TATANAGAR IN WARD NO.8, KODIGEHALLI



TYPICAL CROSS SECTION

NOTE:-

1. ALL DIMENSION & LEVELS ARE Mts. UNLESS OTHERWISE MENTIONED.

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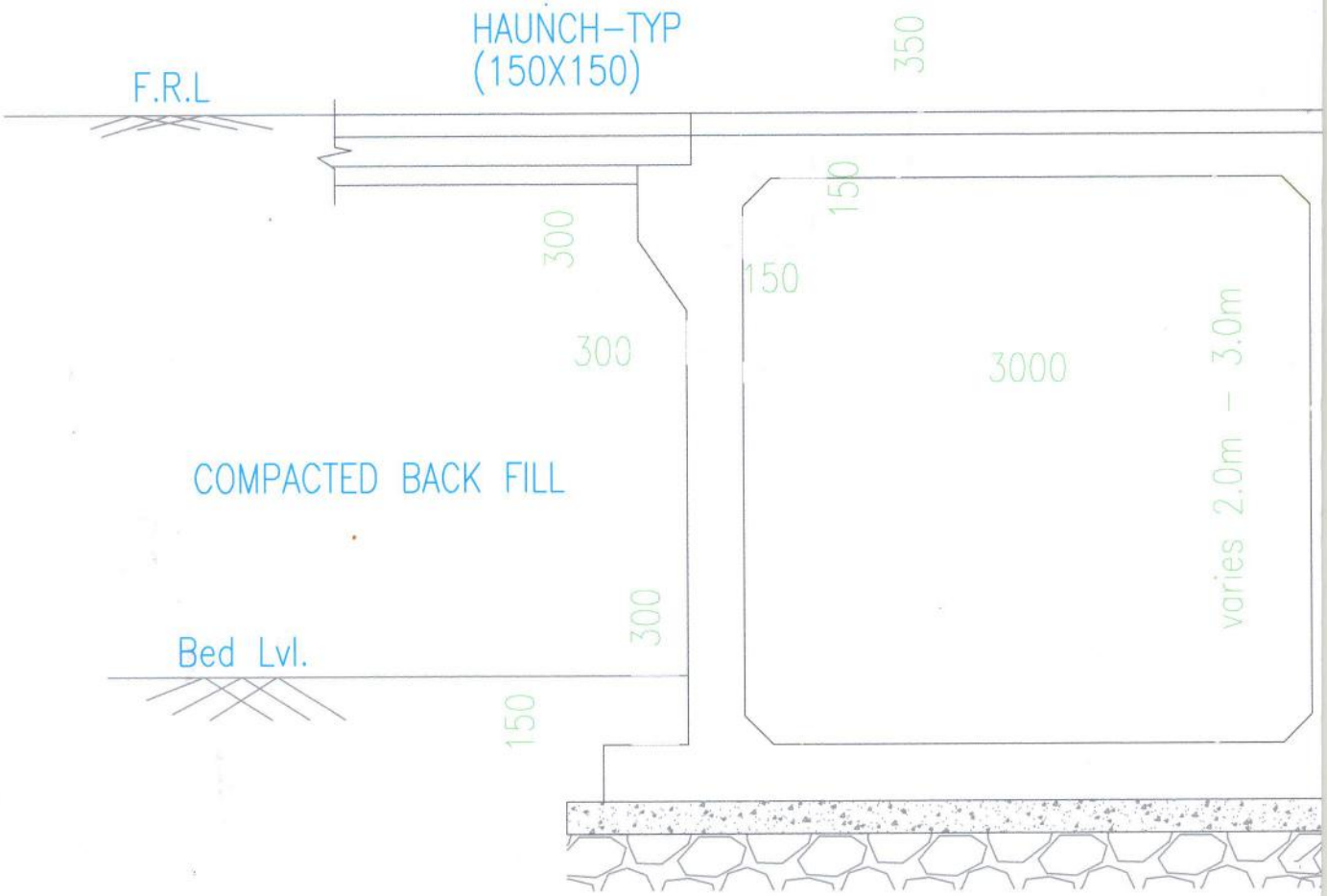
DATE	REVISION	DESCRIPTIONS	SIGN

CONSULTANT:

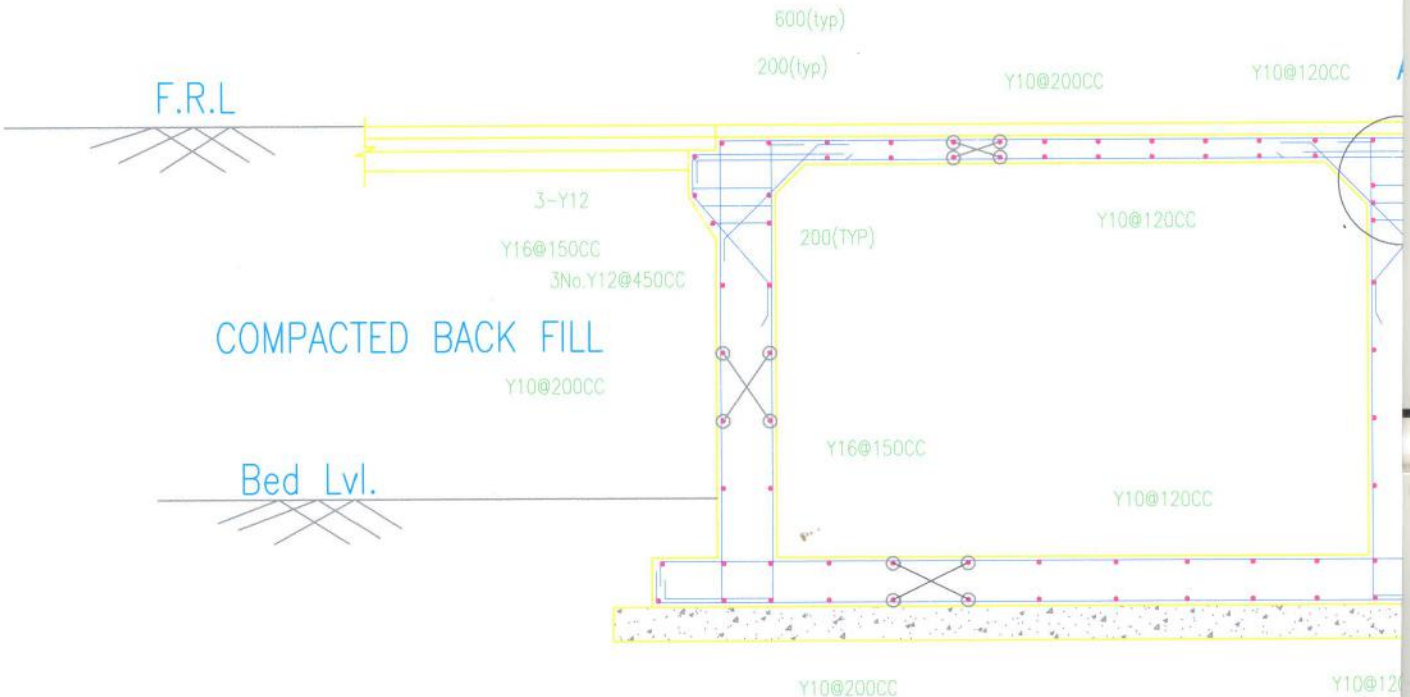
TEJUS CONSULTANTS
No.58 MIG, 6th Cross, 3rd Main
1st Stage, Basaveshwaranagar
Bangalore-560079
TEL: 080 - 23287532
email: tejusconsultants@gmail.com

TITLE:

TYPICAL CROSS SECTION



CROSS SECTION OF BOX DRAIN 3.0



REINFORCEMENT DETAILS

ROAD FORMATION LVL.

56MM THK WEARING COAT

F.R.L

400

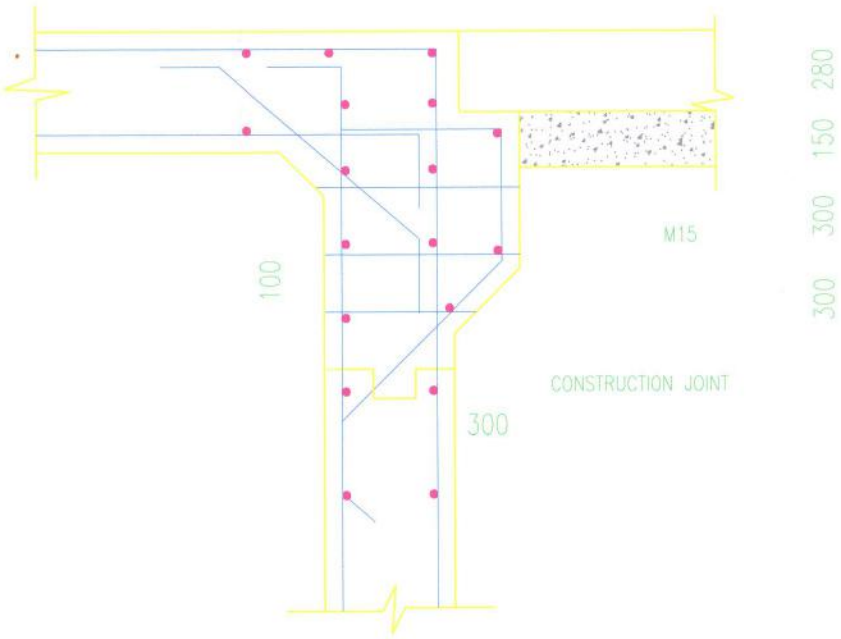
300

COMPACTED BACK FILL

300

150

X 2.0



DETAIL –A–A

200
900
Y10@200CC
1200

F.R.L

3–Y12

Y16@150CC

3No.Y12@450CC

COMPACTED BACK FILL

Y16@150CC

Bed Lvl.

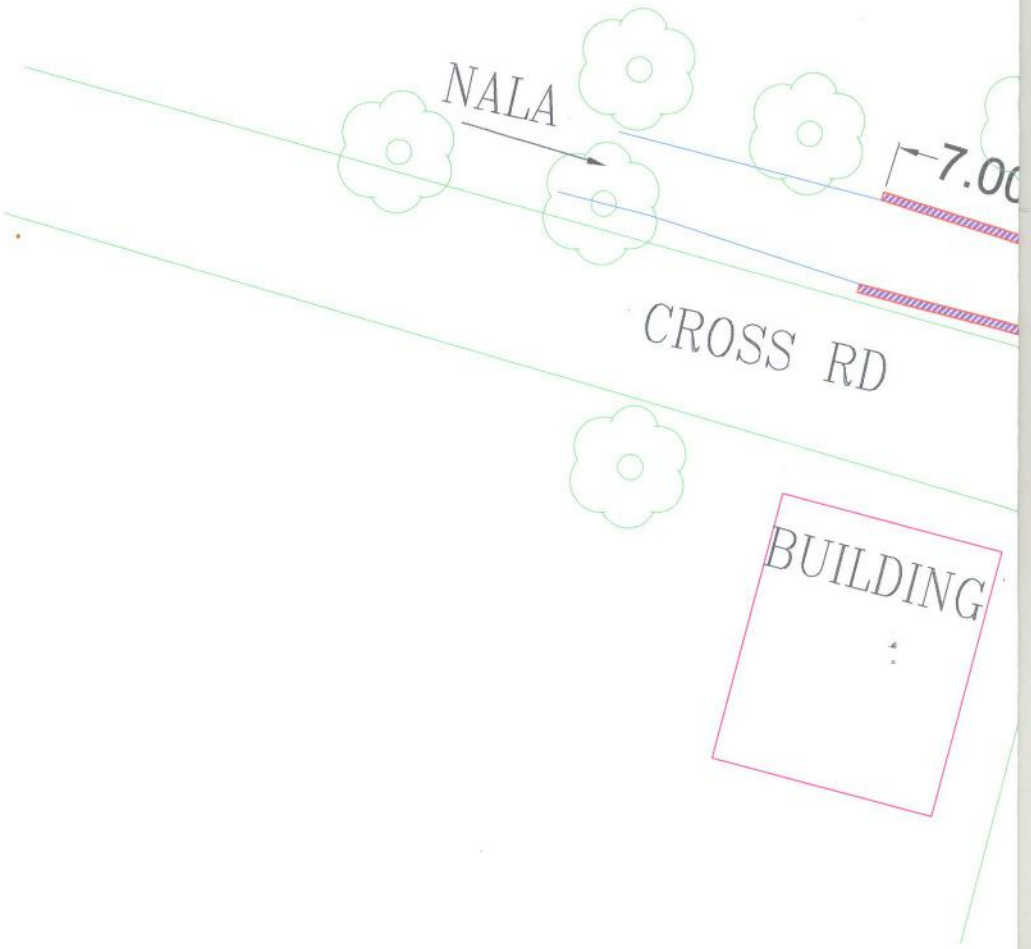
PCC M15 GRADE CONCRETE

NOTES:

1. Concrete Grade - M35
2. Y-Represents Tor Steel Grade Fe - 550
3. All Dimentions are in mm
4. Clear Cover Bottom = 50MM
   Side Walls = 40MM
5. Development Length = 50d
   Lap Length = 1.8d

BRUHAT BANG

IMPROVEMENTS TO ROAD,DRAIN AND FOOTPATH IN 5TH MAIN ROAD A



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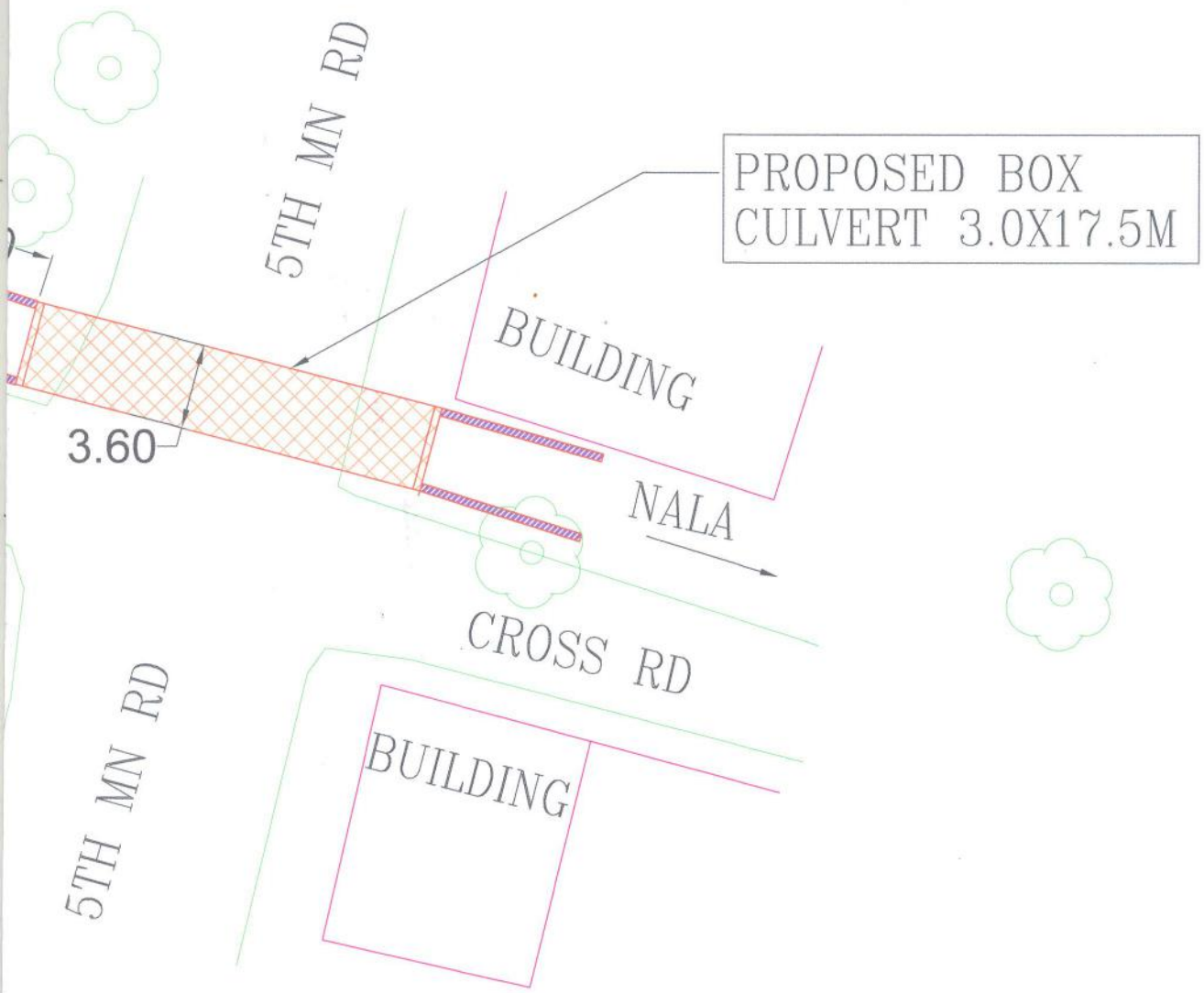
DATE	REVISION	DESCRIPTIONS	SIGN

ALORE MAHANAGARA PALIKE

ND ABUTTING CROSS ROADS OF TATANAGAR IN WARD NO.8, KODIGEHALLI



LEGEND:-

Road
Drain
Contour
Levels
Power line
Telephone pole
Street light
Electric pole
Tree
Building
Bore Well
Drain level
Compound wall
Culvert
Coconut Tree
Road level

CONSULTANT :

TEJUS CONSULTANTS

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TEL: 080 - 23287532
email: tejusconsultants@gmail.com

TITLE:

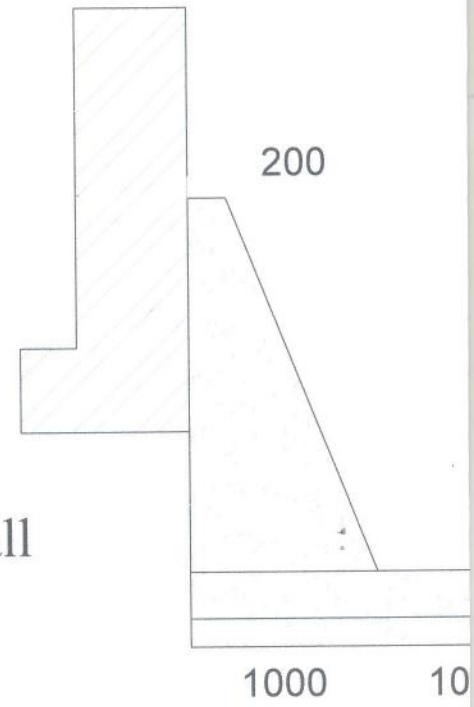
STRIP PLAN

1/1

BRUHAT BANG

IMPROVEMENTS TO ROAD,DRAIN AND FOOTPATH IN 5TH MAIN ROAD A

Existing SSM Wall



RCC Wall

Typical Cross Sec

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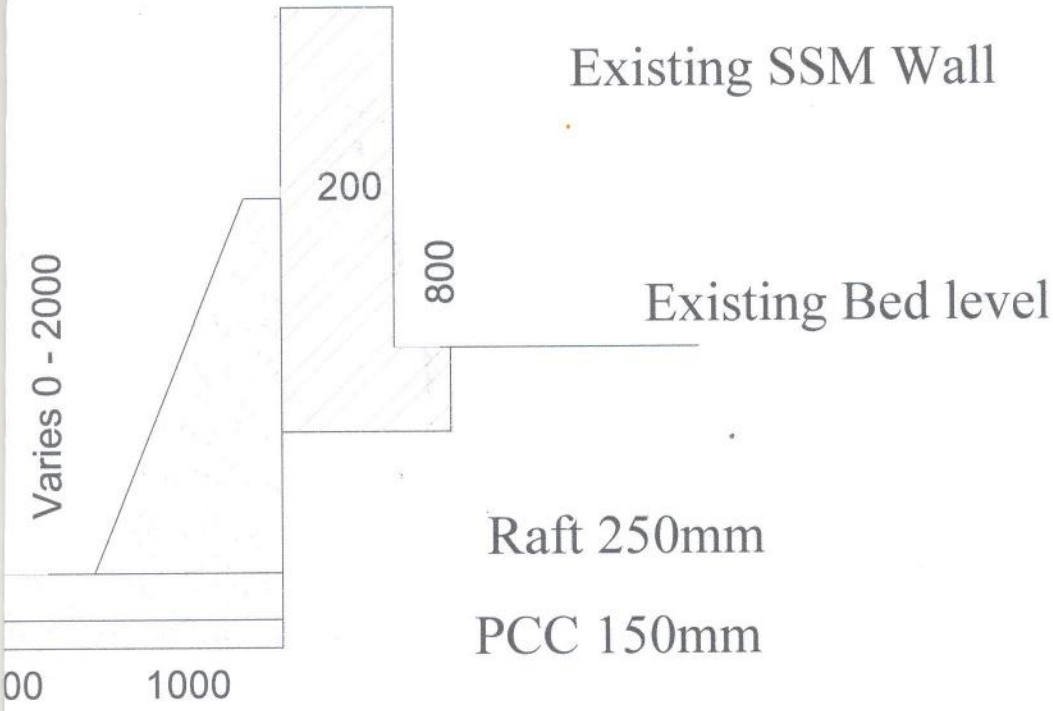
ALORE MAHANAGARA PALIKE

ND ABUTTING CROSS ROADS OF TATANAGAR IN WARD NO.8, KODIGEHALLI



tion Of D/S of Culvert

LEGEND:-

Road
Drain
Contour
Levels
Power line
Telephone pole
Street light
Electric pole
Tree
Building
Bore Well
Deck level
Compound wall
Culvert
Coconut Tree
Road level

CONSULTANT :

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TITLE:

Typical Cross Section

1/1